

## **REMARKS**

Applicants request allowance of the pending claims. Claims 1-80 are pending in the application and are presented for reconsideration in light of amendments and remarks presented herein. Claims 1, 3, 45-50, and 77-80 are amended herein. Claims 44 and 76 are canceled. Claims 1 and 49 are amended to recite the capacity of the minimum transmissivity of laminates of the invention, that is, laminates of the invention possess “a transmissivity of at least  $10^{-3} \text{ M}^2 \text{ sec}^{-1}$  of aqueous liquid at a normal load of at least 100 PSF (pounds/ft<sup>2</sup>) sustainable for at least 100 hours when tested in accordance w/ ASTM 4716.”

Claims 3 and 50 are amended to delete reference to “hollow” projections. Claims 45-48 and 77-80 are amended to add a superscript “2” to the term “M” to thereby correct an inadvertent omission of the term “square meters” (“M<sup>2</sup>”). In this regard, applicants submit that one of ordinary skill in the geocomposite field would comprehend with certainty that the superscript 2 had been inadvertently omitted from the claims. This is particularly so in view of the fact that it is commonly known in the field that ASTM capacities are given in units which include square meters, and not linear meters. Accordingly, applicants submit that no new matter is added. Thus, claims 1-43, 44-75 and 76-80 are presented for reconsideration.

## **CLAIM OBJECTION**

Claim 49 stands objected to assertedly because “the claim recites ‘CE’ which should be spelled out in the claim as to what that stands for instead of using an abbreviation.” Although applicants do not necessarily agree that “CE” is unclear in the context of the claims, in order to expedite prosecution of the present matter, claim 49 has been amended to delete “CE” and to substitute the term “compression element” therefor.

## CLAIM REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-13, 25, 37, 40-43, 49, 50-57, 67, 74, and 75 stand rejected under 35 U.S.C. 102(a) assertedly because they are anticipated by Freese (US 4,840,515). Freese '515 discloses a subterranean drainage unit for protecting a structure, such as a wall or side of a building below grade, from low hydraulic pressures by providing drainage paths for the egress of water which would otherwise collect near the structure. Unlike the present invention, however, the invention of Freese is not adapted for maintaining voids under higher pressures such as those recited in claims 1 and 49. The functional differences between the Compression Elements ("CE's") of the present invention and the "projections" of Freese are now made clear in the claims amended herein. These functional differences are also clear from a careful reading of Freese. At pages 2-4 of the Official Action, the Examiner asserts that:

Regarding claim 1, Freese discloses a laminate comprising: a) a sheet-like base layer, seen as base member (22), having an upper and lower surface; b) compression elements seen as projecting members (30), each having a base, a tip, a shaft, a shaft axis, and a neck; and c) a top layer, seen as filter fabric (24), having a permittivity to fluids (see Col 2, line 55), wherein the top layer is attached to a plurality of the **compression elements** at their tips. [Boldface added.] Regarding claim 2, the compression elements are contiguous with the top surface of the base layer as shown in Fig. 7 and disclosed in column 2, lines 41-43. Regarding claim 49, the method is inherent in the rejection of claims 1 and 2 above. [Emphasis added.]

Regarding claims 3 and 50, the figures show frustoconical projection members (30) shows the compression elements as one of the recited shapes. Regarding claims 4 and 51, Figs. 6 and 7 illustrate the flattened facets. Regarding claims 5 and 52, Figs. 6-8 illustrate the claimed recitation. Regarding claims 6 and 53, Freese discloses suitable material in column 2, lines 27-40 such as polystyrene which is fluid impermeable. Regarding claims 7 and 54, Freese discloses this limitation in column 2, lines 41, 43 and the figures. Regarding claims 8 and 55, the layer of filter

fabric (24) of Freese is described as a non-woven, needle-punched polypropylene, which can be viewed as one membrane.

Regarding claims 9-13, 56 and 57, Freese discloses in column 2, lines 43-45 that the top flat surface (34) of each projection allows for bonding of the filter media (24) thereto, and along with the illustration in Figs. 7 and 8, it appears that the top layer is attached to 100% of the tips of the members (30). Regarding claims 25 and 67, it appears from the disclosure of Freese that the members (30) are provided on the base layer in a density sufficient to meet desired performance specifications for an intended installation, since Freese states that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48).

Regarding claim 37, Fig. 8 of Freese discloses this limitation. Regarding claim 40, Fig. 8 of Freese illustrates the average height of the elements more than the average width of their base. Regarding claims 41 and 74, Figs. 3 and 5 of Freese illustrate such a grid like pattern. Regarding claim 42, Freese discloses thermoplastics in column 2, lines 29-40. Regarding claims 43 and 75, Freese discloses such material in column 2, lines 29-40.

Thus, Examiner Pechhold has presumed that the “projections” of Freese are equal to the CE’s of the present invention. The Examiner is incorrect in this presumption. For this and other reasons, the rejection of the claims is traversed and the present claims are allowable. In this regard, applicants note that, in order to sustain an allegation of anticipation, the asserted reference must show every element of the claimed invention and these elements must relate to one another as they do in the claimed invention. In the present case, the Compression Elements of the present invention are functionally different, and thus patentably different, from the “projections” disclosed in the cited Freese reference.

Nowhere does Freese comprehend the environment in which the present invention performs nor the capacities necessary to perform in that environment. Nowhere in Freese are Compression Elements disclosed. Nowhere in Freese is there any teaching to modify its hollow projections to convert them into Compression Elements. The Examiner is thus reading into Freese disclosure which simply does not exist.

As is further elucidated herein, because of the significant differences between the disclosure of Freese and the presently claimed invention, Freese cannot properly be applied in the present case. These functional differences are also clear from a careful reading of Freese. More specifically, with reference to Figures 2-8, a drainage unit according to Freese '515 comprises a sheet-like base member 22, and, arising from frontside 28 of base member 22, a plurality of frustoconical projecting members 30. Each of projecting members 30 is provided with a top flat surface 34 to which is adhered filter media 24, preferably by means of "a melt glue to maintain a substantially rigid surface." Column 2, lines 59-60. When a drainage unit according to Freese is in use, filter media 24 is disposed in contact against fill, such as earth, sand and water. Importantly, the frustoconical projecting members 30 of Freese are **necessarily hollow** in order to allow, among other things, the joining of two or more sheets of the material. As is illustrated in the Figures of Freese, these hollow projections are neither constructed nor arranged to function and withstand the pressures for which the claimed invention was designed. [Emphasis added.]

As the present claim 1 recites, a laminate of the present invention comprises a base layer, a top layer and compression elements wherein these three "are constructed and arranged such that said laminate has a transmissivity of at least  $10^{-3} \text{ M}^2 \text{ sec}^{-1}$  of aqueous liquid at a normal load of at least 100 PSF (pounds/ft<sup>2</sup>) sustainable for at least 100 hours when tested in accordance w/ ASTM 4716." As the Figures of Freese show, the laminates of Freese are designed and constructed to be disposed upright or vertically along "a retaining wall or foundation wall, as a land-fill drain and for edge drain applications such as along highways." Col. 1, lines 61-63. Thus, the laminates of Freese neither comprehend nor anticipate the presently claimed high-pressure drainage laminates. As additional evidence of this, applicants note that nowhere in Freese is there any specific disclosure of any pressure or drainage capacities let alone the pressure or drainage capacities necessary to provide the drainage capacities of the present invention. Accordingly, Freese neither

discloses the present invention nor anticipates it. Withdrawal of the rejection of claims 1-13, 25, 37, 40-43, 49, 50-57, 67, 74, and 75 under 35 U.S.C. 102(a) assertedly because they are anticipated by Freese is solicited.

### **CLAIM REJECTIONS UNDER 35 U.S.C. § 103**

Claims 14-36, 38, 39, 44-48, 58-66, 68-73, and 76-80 stand rejected also under 35 U.S.C. 103(a) assertedly because they are unpatentable over Freese (US 4,840,515). Applicants reiterate their arguments provided above with respect to the claims rejected on the asserted grounds of anticipation. At pages 4 and 5 of the Official Action, the Examiner asserts that:

Regarding claims 14 and 58, Freese fails to disclose the specific bond strength. But Freese does note that column 2, lines 55-61 that the fabric (24) is bonded to the surfaces (34) of the base by a melt glue to maintain a substantially rigid surface, and that other methods of attaching may be utilized. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bond strength in Freese to be 0.1 lbs/sq.in. of attachment surface, since Freese recognizes the need to maintain a substantially rigid surfaces with a proper adhesion means.

In this regard, applicants note that nowhere in Freese does that reference provide any teaching of the problems to which the present invention is directed. Moreover, Freese neither mentions nor comprehends the significance of Compression Elements (“CE’s”) and bond strength in providing the capacities of the laminates of the present invention. It would thus appear that the Examiner is engaging in impermissible hindsight reconstruction in order to read into Freese disclosure which does not exist there. The Examiner asserts further that:

Regarding claims 15-18 and 59-61, Freese fails to specifically disclose a ratio of shaft length to neck diameter of the compression elements. But Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance

for the applications for which it is designed (Col 2, lines 45-48). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the ratio of shaft length to neck diameter of the **compression elements** in Freese to be at least 2-1, or 3-1, or 4-1, or 5-1, since Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48), and furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.” [Boldface added.]

Regarding claims 19-24 and 62-66, Freese **fails to specifically disclose a neck diameter**. But Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the neck diameter of the compression elements in Freese to be at least 0.5mm, or 2mm, or 6mm, or 15mm, or 20mm, or 25mm, since Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48), and furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.” [Boldface added.]

Regarding claims 26-30 and 68-70, Freese fails to specifically disclose a plurality of **compression elements** on the base layer in a specific density. But Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48). It

would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the density of the compression elements on the base layer in Freese to be at least 1 or 2 or 3 or 4 or 10 per sq. inch, since Freese does note that the dimensions of the projections are selected to provide the best combination of strength and height to provide good flow while having sufficient crush resistance for the applications for which it is designed (Col 2, lines 45-48), and furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. [Boldface added.]

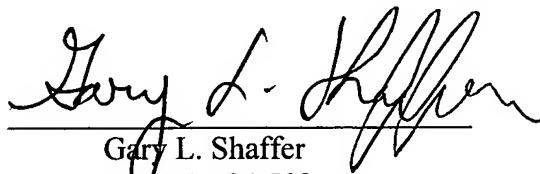
In this regard, applicants note that nowhere does Freese comprehend the environment in which the present invention performs nor the capacities necessary to perform in that environment. Nowhere in Freese are Compression Elements disclosed. Nowhere in Freese is there any teaching to modify its hollow projections to convert them into Compression Elements. In sum, the Compression Elements of the present invention are simply absent from Freese. For this, and for the other reasons elucidated herein, withdrawal of the rejections of record and allowance of all of the pending claims is solicited.

In view of the above, applicants urge that claims 1-43, 44-75 and 76-80 are in condition for allowance and request a notice thereof. Moreover, applicants reiterate their request for a formal interview with Examiner Pechhold. Accordingly, applicants therefore request the Examiner to contact the undersigned counsel for applicants in order to arrange such an interview.

Applicants have enclosed payment for a three-month extension of time. Nonetheless, if any payment is deficient, please debit Deposit Account No. 50-3375. If any overpayment has occurred, please credit Deposit Account No. 50-3375. Moreover, if any other matter can be resolved by telephone, Examiner Pechhold is hereby requested to contact the undersigned as soon as possible, with any comments, questions or suggestions that she may have, and to schedule a formal interview.

Respectfully submitted,

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